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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/527,949	11/14/2005	Serge Grizzo	085516-9005-00	2378
23409 7590 10/23/2008 MICHAEL BEST & FRIEDRICH LLP 100 E WISCONSIN AVENUE Suite 3300 MILWAUKEE, WI 53202				
EXAMINER				
FRAZIER, BARBARA S				
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1611				
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10/23/2008		PAPER		

**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.

### Office Action Summary

**Application No.**

10/527,949

**Applicant(s)**

GRIZZO ET AL.

**Examiner**

BARBARA FRAZIER

**Art Unit**

1611

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --  
**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 09 July 2008.
- 2a) ☒ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1-7 is/are pending in the application.
- 4a) Of the above claim(s) 6 and 7 is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-5 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- 1) ☐ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO/SF/ICE)  
Paper No(s)/Mail Date 5/28/08
- 4) ☐ Interview Summary (PTO-413)  
Paper No(s)/Mail Date \_\_\_\_\_
- 5) ☐ Notice of Informal Patent Application
- 6) ☐ Other: \_\_\_\_\_

### **DETAILED ACTION**

1. Claims 1-7 are pending in this application. Addition of new claim 7 is acknowledged.

#### ***Election/Restrictions***

2. Newly submitted claims 6 and 7 directed to an invention that is independent or distinct from the invention originally claimed for the following reasons:

Claims 1-5 and claims 6 and 7 are related as process of making and product made. The inventions are distinct if either or both of the following can be shown: (1) that the process as claimed can be used to make another and materially different product or (2) that the product as claimed can be made by another and materially different process (MPEP § 806.05(f)). In the instant case the process as claimed can be used to make another and materially different product such as lacquers, plastics, enamels and ceramics.

Since applicant has received an action on the merits for the originally presented invention, this invention has been constructively elected by original presentation for prosecution on the merits. Accordingly, claims 6 and 7 are withdrawn from consideration as being directed to a non-elected invention. See 37 CFR 1.142(b) and MPEP § 821.03.

3. Claims 1-5 are examined.

***Claim Rejections - 35 USC § 102***

4. The rejection of claims 1, 4, and 6 under 35 U.S.C. 102(b) as being anticipated by Wilhelm et al (US Patent 5,167,708), as evidenced by Rasmussen (US Patent 4,572,739) is withdrawn in view of Applicant's arguments that the pigment itself is not brought into contact with an iron(II) compound.

***Claim Rejections - 35 USC § 103***

5. The text of those sections of Title 35, U.S. Code not included in this action can be found in a prior Office action.

**6. Claims 1, 3, and 4 are rejected under 35 U.S.C. 103(a) as being unpatentable over Wilhelm et al (US Patent 5,167,708) in view of Rasmussen (US Patent 4,572,739).**

The claimed invention is drawn to a process for preparing a pigmentary composition comprising bringing into contact hydrated chromium oxide-based particles with a chromium (VI) content between 20 and 1000 ppm of the total mass of said particles, and an iron (II) compound, to prepare a pigmentary composition comprising particles with a chromium oxide base, in which the chromium present as chromium (VI) represent at most 5 ppm of the total mass of the particles.

Wilhelm et al. teach that it is known to reduce chromium(VI) from a chromium oxide pigment suspension with  $\text{FeSO}_4$  (i.e., iron(II) sulfate). The original concentration of chromium(VI) is 200 ppm (see Example 2).

Wilhelm et al. do not specifically state that the pigment reduced with iron(II) sulfate is "chromate-free", or at most 5 ppm of the total mass of the chromium oxide particles. However, Wilhelm et al. do state that Cr(VI) must be reduced and removed (col. 1, lines 40-45), and after the reduced chromium is precipitated and separated off, the wash water may be discharged as effluent (col. 2, lines 48-52). Therefore, one skilled in the art would recognize that the resultant chromium oxide pigment would be free of Cr(VI). Further, one skilled in the art would recognize that "chromate-free" would mean less than 5 ppm. As evidence, Rasmussen teaches that, when chromate(VI) is reduced with ferrous sulphate, no measurable content of water-soluble chromate means that the content of free chromate is less than 0.1 ppm Cr (col. 9, lines 11-14).

Wilhelm et al teach separating the chromium oxide from the original concentration of Cr(VI) in a filter press prior to reduction with  $\text{FeSO}_4$ , instead of contacting the chromium oxide-based particles with a chromium (VI) content of 200 ppm with  $\text{FeSO}_4$ .

However, it would have been obvious to a person having ordinary skill in the art at the time the invention was made to contact the chromium oxide-based particles with a chromium (VI) content of 200 ppm with  $\text{FeSO}_4$ ; thus arriving at the claimed invention. One skilled in the art would be motivated to do so because the reaction of interest is the reduction of Cr(VI) to  $\text{Cr}^{3+}$ , as evidenced by Applicant's specification (see pages 1 and 2 of Applicant's specification). This is the reaction taught by Wilhelm et al, and one skilled in the art would recognize that said reaction would take place whether or not the chromium oxide particles are present, absent evidence to the contrary. Therefore, the

presence of chromium oxide particles during the reduction of Cr(VI) to Cr<sup>3+</sup> does not impart patentability to the claim but merely represents optimization of process steps and would be well within the purview of the skilled artisan, absent evidence to the contrary.

Regarding claim 3, Wilhelm et al. is silent with respect to the ratio of the iron (II) used to the chromium (VI) initially found in the chromium oxide particles.

However, Examiner notes that the ratio taught in claim 3 is merely an excess of reducing agent (i.e., iron(II) sulfate) used with respect to the agent to be reduced (i.e., chromium(VI)).

It would have been obvious to a person having ordinary skill in the art at the time the invention was made to use an excess of iron(II) with respect to the amount of chromium(VI) present within the range taught by Applicants, and would be able to select optimal amounts of excess iron(II) within as a matter of routine experimentation. One skilled in the art of chemistry would have been motivated to use such an amount because doing so would result in the driving the reduction of chromium (VI) to Cr<sup>3+</sup> to completion and provide the result of complete removal of the hazardous material chromium (VI). Therefore, absent unexpected results, the limitation of quantifying the excess amount of iron(II) reducing agent used does not impart patentability to the claim.

Regarding claim 4, Wilhelm et al. teach that it is known to use iron(II) sulfate as a reducing agent for chromium(VI) (see Example 2).

**7. Claim 2 is rejected under 35 U.S.C. 103(a) as being unpatentable over Wilhelm et al (US Patent 5,167,708) in view of Rasmussen (US Patent 4,572,739)**

**as applied to claims 1, 3, and 4 above, and further in view of Wallar et al (US Patent 6,410,470).**

The claimed invention and the inventions of Wilhelm et al and Rasmussen are recited above (see paragraph 6).

Regarding claim 2, Wilhelm et al is silent with respect to the particle size of the chromium oxide pigment particles.

Wallar et al teach that the typical size of fine pigment-grade chromium oxide prior to removal of chromium metal impurities is a particle size of about 3 microns (col. 2, lines 1-10).

It would have been obvious to a person having ordinary skill in the art at the time the invention was made to use chromium oxide particles having a particle size of about 3 microns in the process of Wilhelm et al., thus arriving at the claimed invention. One skilled in the art would have been motivated to do so because the size taught by Wallar et al. is the typical size for pigment-grade chromium oxide, and therefore would be the size of choice for chromium oxide pigment.

**8. Claim 5 is rejected under 35 U.S.C. 103(a) as being unpatentable over Wilhelm et al (US Patent 5,167,708) as evidenced by Rasmussen (US Patent 4,572,739) as applied to claims 1, 3, and 4 above, and further in view of Bernhard (US Patent 4,456,486).**

The claimed invention and the inventions of Wilhelm et al and Rasmussen are recited above (see paragraph 6).

Regarding claim 5, Wilhelm et al is silent with respect to the pH of the process.

Bernhard teaches that, when chromium(VI) salts are reduced to chromium(III) in a pigment suspension, the pH value in the pigment suspension is preferably between 4.5 and 9 (col. 3, lines 44-54).

It would have been obvious to a person having ordinary skill in the art at the time the invention was made to perform the process of Wilhelm et al. at the pH taught by Bernhard, thus arriving at the claimed invention. One skilled in the art would have been motivated to do so because the pH range taught by Bernhard is described as the preferred range for the reduction of chromium(VI) with a reducing agent, and one skilled in the art would be able select an optimal pH within said range as a matter of routine experimentation. One would reasonably expect success from using the pH taught by Bernhard in the process of Wilhelm et al. because both processes are drawn to the reduction of chromium(VI) to chromium(III) with a reducing agent in a pigment suspension.

### ***Conclusion***

No claims are allowed at this time.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to BARBARA FRAZIER whose telephone number is (571)270-3496. The examiner can normally be reached on Monday-Thursday 9am-4pm EST.



If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Sharmila Landau can be reached on (571)272-0614. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

BSF

/Sharmila Gollamudi Landau/  
Supervisory Patent Examiner, Art Unit 1611